Department of Energy

ROCKY FLATS FIELD OFFICE
P.O. BOX 928
GOLDEN, COLORADO 80402-0928

JUL 1 1999

99-DOE-03423

Mr. Tim Rehder
U.S. Environmental Protection Agency, Region VIII
999 18th Street, Suite 500, EPR-FT
Denver, Colorado 80202-2466

Dear Mr. Rehder:

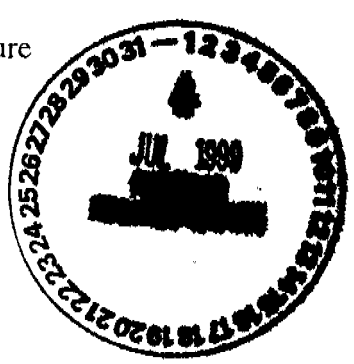
Enclosed please find the quarterly status report for the Mound Site Plume Treatment Project, April through June 1999, as per the Mound Site Plume Treatment Interim Measure/Interim Remedial Action. Included in this report are the analytical results for samples collected in the previous quarter which were not available for the last report. There are no safety issues for this reporting period.

If you should have any technical questions regarding this report, please contact Norma I. Castaneda at (303) 966-4226 or contact me at (303) 966-5918.

Sincerely,

Joseph A. Legare
Assistant Manager
for Environment & Infrastructure

Enclosure



ADMIN RECORD

1/14

BZ-B-00042

cc w/Enc:
A. Rampertaap, EM-45, HQ
S. McMullin, EM-50, SRS
C. Lanigan, EM-50, SRS
G. Huffman, CP, RFFO
T. Holdsworth, EPA-NRMRL
S. Gunderson, CDPHE
C. Spreng, CDPHE
G. Kleeman, EPA
Administrative Record

cc w/o Enc:
J. Rampe, DAMEI, RFFO
R. Tyler, ERWM, RFFO
N. Castaneda, ERWM, RFFO
L. Butler, K-H
T. Greengard, SAIC
A. Primrose, RMRS

2

RF/RMRS-99-384.UN

QUARTERLY REPORT
FOR THE
MOUND SITE PLUME TREATMENT PROJECT

April through June 1999

June 23, 1999

3

INTRODUCTION

The Mound Site Plume Treatment System collects and treats the contaminated groundwater plume derived from the Mound Site to the Groundwater Action Level Framework Tier II level concentrations defined in the Rocky Flats Cleanup Agreement (RFCA) (DOE, 1996) and demonstrates the feasibility of using this system on other contaminated groundwater plumes. The components of the Mound Site Plume System are shown on Figure 1.

The Mound Site Plume Treatment Project was a cooperative effort between RFETS and the Department of Energy Subsurface Contaminant Focus Area (EM-50), with support from the US Environmental Protection Agency (EPA) SITE Program. The Mound Site Plume Treatment Project employs innovative technology for the collection and treatment of contaminated groundwater containing chlorinated organic contamination and low levels of radionuclides.

This report covers the activity and available data for the quarter from April 1, 1999, to June 30, 1999. Included in this report are the analytical results for samples collected in the previous quarter, but which were not available for the last report. There are no safety issues for this reporting period.

PROJECT EVENTS

Raking of the iron in the two treatment cells continues along with water level monitoring and sample collection by the EPA SITE Program (performed by Tetra Tech). Each of the two treatment cells contains 4 feet of iron filings that act as the treatment medium for the contaminated water. A crust continues to form on the surface of the iron filings and requires mechanical disruption in both Reactor Cells 1 and 2. The crust apparently results from a rise in pH from 7 in the influent, to a pH of 9 at the first sampling port. Reducing conditions as a result of the iron causes this rise in pH. Discussions are continuing with Environmental Technologies over the most appropriate method of preventing or minimizing crust formation.

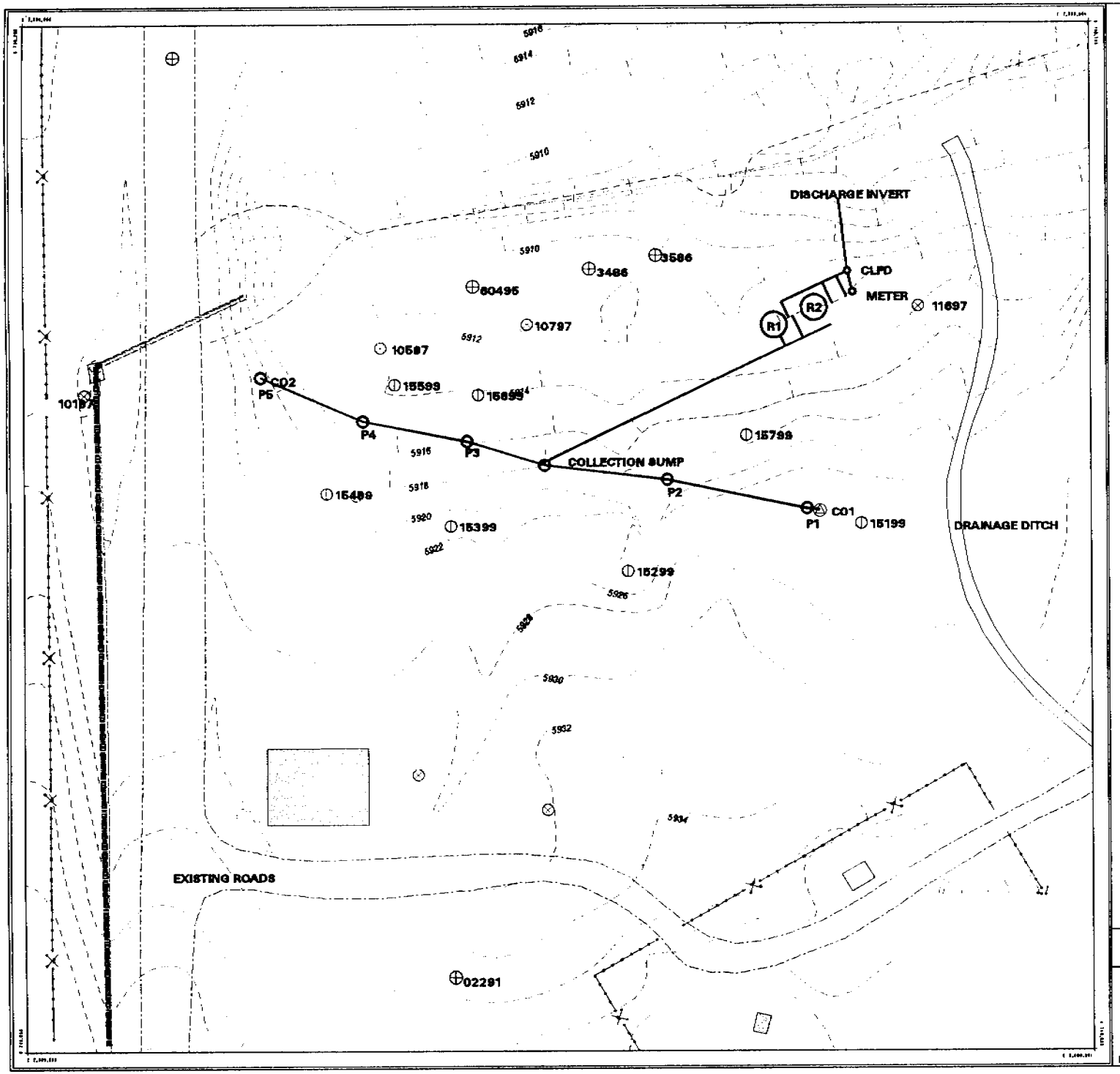
A crust developed at the top of the iron in Reactor Cell 1. The crust material was broken up, then piled loosely inside the cell until it could be appropriately dispositioned. A determination was recently made that the crust could go into the sludge drying beds at the Building 995-Wastewater Treatment Plant. Crust removal occurred the week of June 21, 1999. Additional iron mixed with gravel was added at this time.

Some of the iron media was collected along with the crust material, which reduced the amount of iron covering the first sample port by 6 to 8 inches. Therefore, the first sampling port no longer collects water treated by a foot of iron. Analytical sample results from the second sampling port are more comparable with the first sampling port from previous sampling events.

TREATMENT EFFECTIVENESS

Flow rates from the treatment system for the April-June period are shown on Figure 2. Of note is that this April was the wettest on record in 99 years. Significant precipitation also occurred in May and June.

Water levels within the collection trench are monitored by five piezometers (P1 through P5). Locations are shown on Figure 1 with the results shown in Table 1. These data indicate that the east side of the collection trench is dry, as was anticipated. This side of the plume was believed



BARRIER WALL AND TREATMENT SYSTEM LOCATIONS

Figure 1

Rocky Flats Environmental Technology Site

EXPLANATION

Detailed Key

- New Ground Water Well
- Existing Ground Water Well
- New Trench Water Level Monitoring Probes
- Geoprobe
- New Trench Cleanout
- Contours
- Fences
- 72" Culvert
- Trench System

Standard Map Features

- Buildings and other structures
- Lakes and ponds
- Streams, ditches, or other drainage features
- Paved roads
- Dirt roads

Scale = 1 : 870
1 inch represents approximately 68 feet

0 20 40 ft

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD27

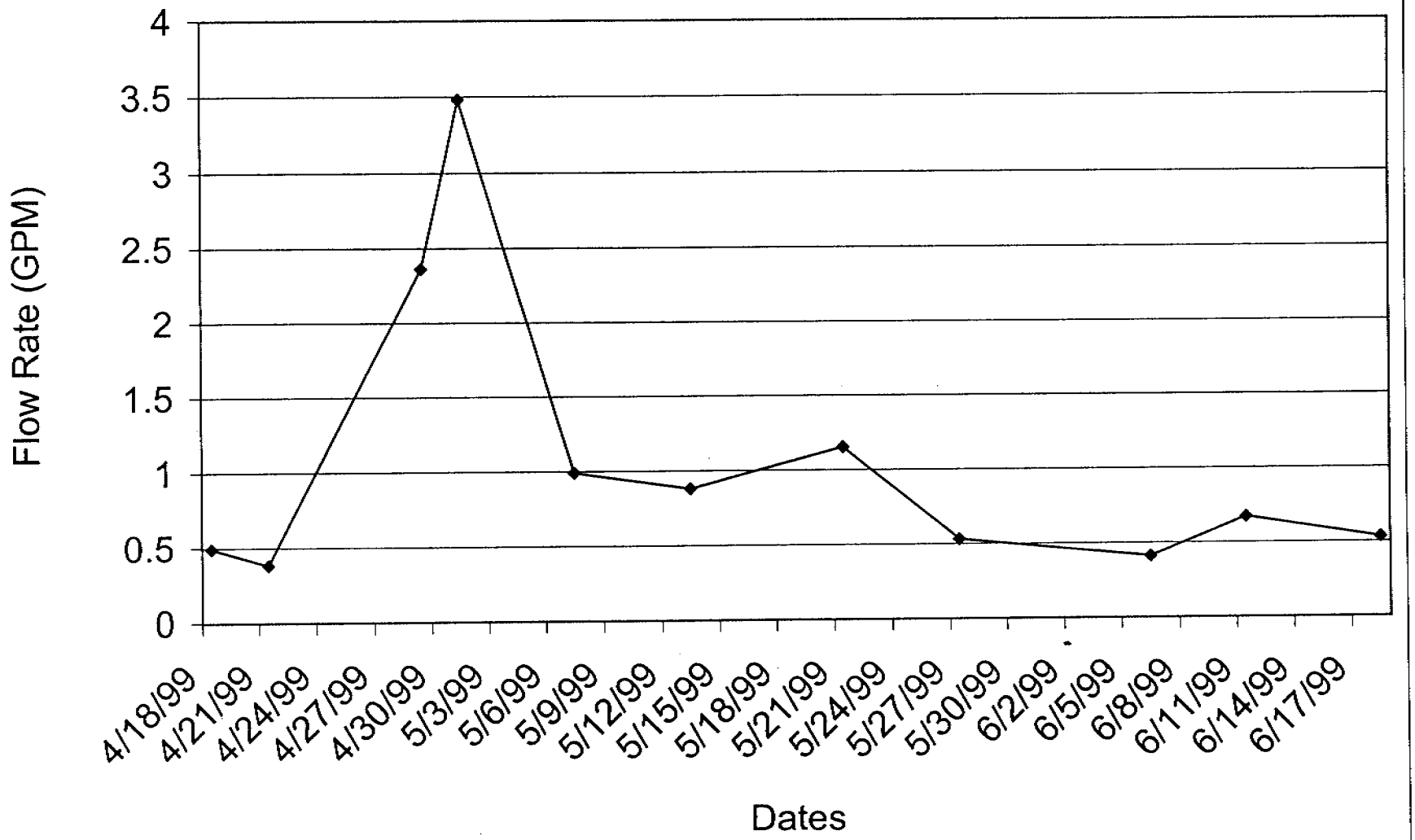
U.S. Department of Energy
Rocky Flats Environmental Technology Site

RMRS Rocky Mountain Remediation Services, L.L.C.

MAP ID: 99-0229 June 23, 1999

NT_Svr w:/projects/ty99/99-0223/brenda_zm.aml

Figure 2: Mound Plume Treatment System Flow Rates



to be dry prior to installation of the collection system. Water levels from the piezometers up-gradient and downgradient of the collection trench were measured monthly. These results are also shown in Table 1.

Total flow volume through the system as of June 18, 1999, was 144,107 gallons of water. The volume for March 26 to June 18, 1999, was 89,005 gallons. The average flow rate for April through June was 1.08 gallons per minute. This compares to an average flow rate of 0.28 gallons per minute in January through March.

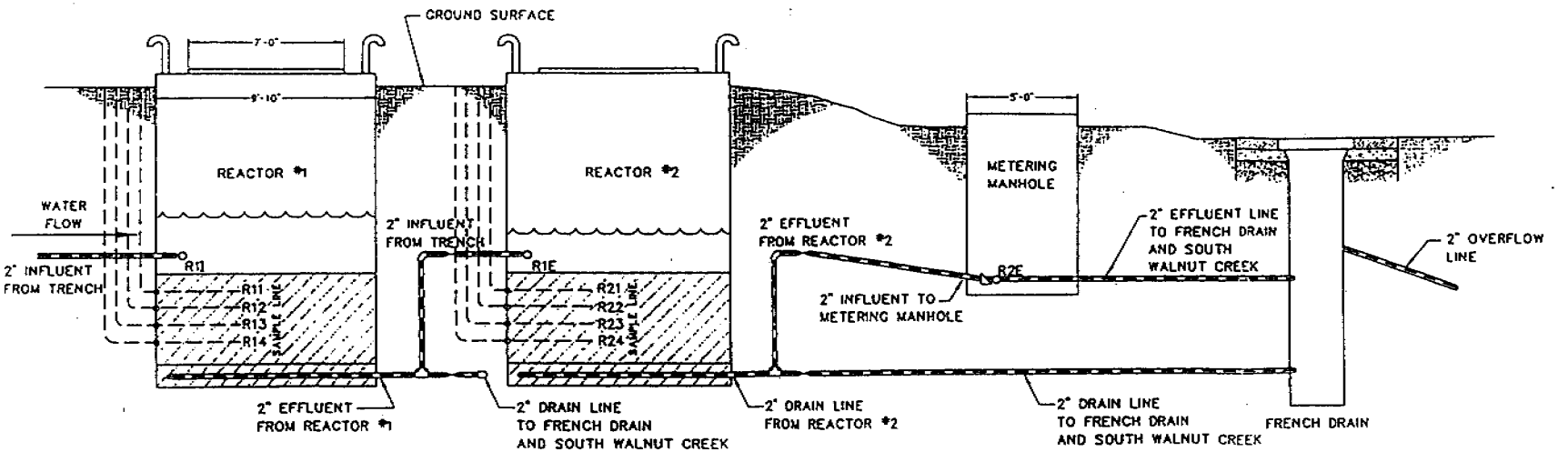
Table 1. Mound Plume Piezometer water levels (in feet below top of casing)

Date	4/5/99	5/4/99	5/25/99	6/1/99
Trench Piezometers				
P1' (East)	NM	NM	Dry	NM
P2'	NM	NM	11.61	NM
P3'	NM	NM	9.33	NM
P4'	NM	NM	9.39	NM
P5' (West)	NM	NM	12.36	NM
Collection Sump	NM	NM	8.45	NM
Groundwater Piezometers				
15199	7.89	6.95	NM	5.93
15299	12.26	12.00	NM	11.59
15399	6.65	5.45	NM	3.31
15499	2.71	1.11	NM	1.82
15599	DRY	DRY	NM	DRY
15699	9.19	7.89	NM	7.72
15799	10.58	10.35	NM	10.00
3586	7.68	6.08	NM	7.50

NM = Not measured

Samples were collected once this quarter, on May 25, 1999. The sample results received this quarter are provided in Appendices A and B. As of the report date, the data have not been verified or validated and a data quality assessment has not been conducted. The results indicate that the volatile organic compounds (VOCs) are primarily being removed within the first foot of reactive iron (sampling port 2), with concentrations of trichloroethene, tetrachloroethene, and carbon tetrachloride showing significant decrease from the influent sample port to the first sample port. Concentrations of VOCs are low to non-detect in samples collected from the second, third, and fourth sample ports. Figure 3 shows the sampling locations within the treatment cells.

May 25, 1999 Sampling Event: Contaminants of Concern (COC) being treated by the Reactive Barrier System include carbon tetrachloride, chloroform, cis 1,2-dichloroethene, tetrachloroethene, 1,1,1-trichloroethene, and methylene chloride. Average sample results from the influent going into the first treatment cell were significantly reduced when compared to the average effluent concentrations from the first treatment cell as shown in Table 2 and Figure 4. All results (average as well as individual results) were below the RFCA Tier II Groundwater Action Levels.



LEGEND

- REACTIVE IRON
- SAMPLE LOCATION
- WATER LINE
- SAMPLE LINE

NOT TO SCALE

Figure 3

Sample Locations Within the Treatment Cells

RMRS
Rocky Mountain Remediation Services, L.L.C.
Rocky Flats Environmental Technology Site
P. O. Box 464
Golden, Colorado 80402-0464

Figure 4. MOUND PLUME TREATMENT RESULTS By Sample Locations - 5/25/99

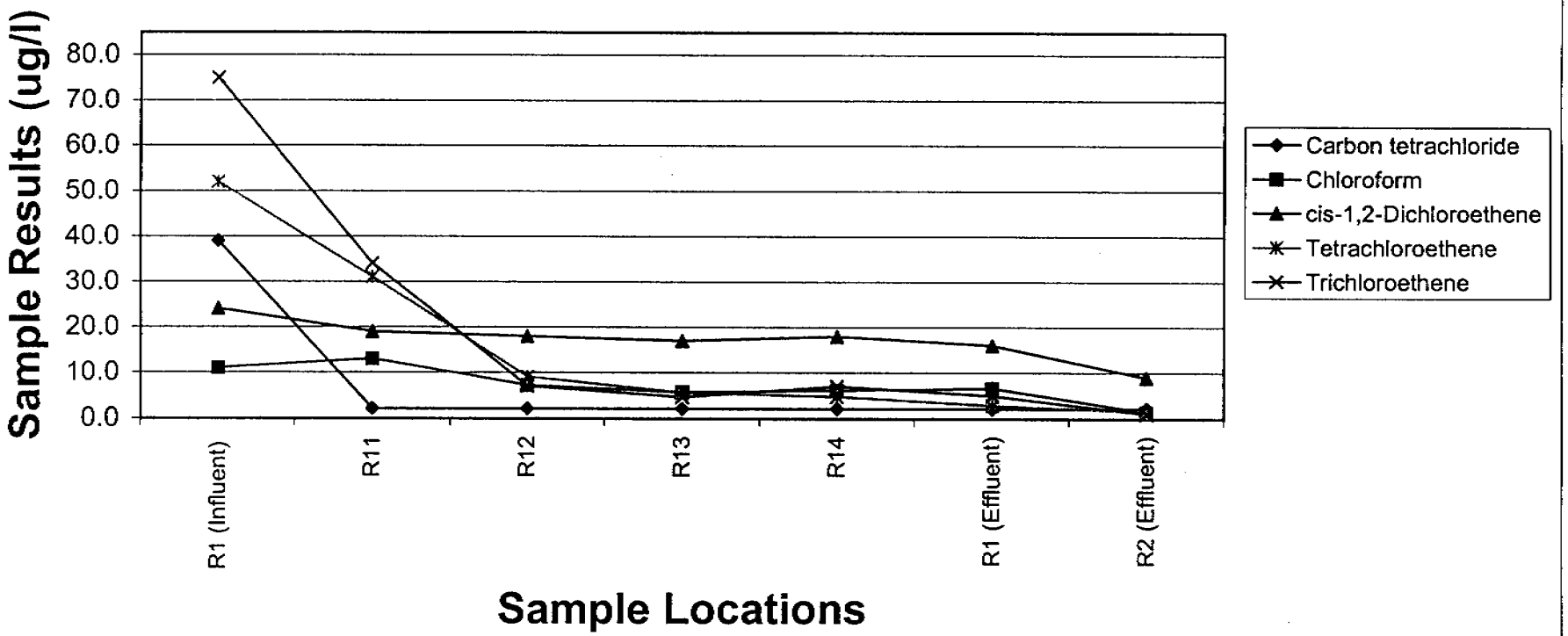


Table 2. Summary of the May 25, 1999 Sampling Event

Contaminant	Average Influent Conc. (ug/l)	Effluent from Reactor 1 Concentrations (ug/l)	Effluent from Reactor 2 Concentrations (ug/l)	RFCA Groundwater Tier II Action levels (ug/l)
Carbon Tetrachloride	43.7	ND	ND	5
Chloroform	11.7	6.6	1.4	100
cis 1,2-dichloroethene	25.7	16.0	8.9	70
Methylene Chloride	ND	1.6 J	1.8 J	5
Tetrachloroethene	59.0	2.8	ND	5
1,1,1-Trichloroethane	4.9	ND	ND	200
Trichloroethene	84.3	4.9	ND	5

ND = Not detected at the detection limit for this analysis
J = Detected below detection limit for analysis

Radiological Results: Radiological analyses were received this quarter from a previous sampling event and are provided in Appendix B. The radiological contaminants of concern identified in the Decision Document (DOE 1997) were uranium and americium 241.

The uranium analyses were provided in units of weight rather than activity, however, the data still show a marked decrease from influent to effluent sampling locations. The average uranium concentration at the influent to the first treatment cell on February 23, 1999 was 14.4 ug/l. At the sampling port four feet down into the iron, the uranium concentration had declined to .00484 ug/l. Using a conversion factor of 0.677 pCi/ug, which was provided by the lab that performed the analysis, these values roughly equate to 9.75 pCi/l at the influent sample location and declining to 0.0033 pCi/l at the effluent sample location. This effluent concentration is well below the RFCA Tier II action level of 10 pCi/l.

Americium 241 concentrations at the effluent from the treatment system ranged from 0.00371 to 0.011 pCi/l, significantly below the RFCA Tier II action level of 0.145 pCi/l. No influent samples were analyzed for americium.

Radiological results from samples collected at the outfall from the treatment system confirm that effluent radionuclide concentrations are below Tier II action levels (See Appendix B).

CONCLUSIONS

The Mound Site Plume Treatment Project is fully operational and treating contaminated groundwater to below the specified system performance requirements. Ongoing maintenance, raking the iron filings and retrieving flow rate and water level data are the only required activities. Sampling will continue at regular intervals to verify the performance of the treatment system. For the next quarter, July through August, 1999, no changes in the system are expected except minor changes to minimize crust formation in the reactor cells.

REFERENCES

DOE, 1996, *Final Rocky Flats Cleanup Agreement*, Rocky Flats Environmental Technology Site, Golden, CO, July.

DOE, 1997, Final *Mound Site Plume Decision Document*, RF/RMRS-97-024, September.

APPENDIX A - Mound Plume Treatment System Analytical Results (Preliminary) in ug/l

	Top of Reactor 1 (Influent)		Top of Reactor 1 (Influent)		Top of Reactor 1 (Influent)		Trip Blank		Field Blank		Reactor 1 Sample Line R11		Reactor 1 Sample Line R11		Reactor 1 Sample Line R11	
Location/Date	5/25/99		5/25/99		5/25/99		5/25/99		5/25/99		5/25/99		5/25/99		5/25/99	
Sample Number	ETI-R10-S-01-52599		ETI-R10-S-02-52599		ETI-R10-S-03-52599		ETI-R10-T-01		ETI-R10-F-01		ETI-R11-S-01-52599		ETI-R11-S-02-52599		ETI-R11-S-03-52599	
Parameter	Result	Detection Limit	Result	Detection Limit	Result	Detection Limit	Result	Detection Limit	Result	Detection Limit	Result	Detection Limit	Result	Detection Limit	Result	Detection Limit
Acetone	15 JB	25	7.2 JB	25	6.4 JB	25	ND	10.0	4.0 JB	10.0	3.9 JB	10.0	2.6 JB	10.0	3.1 JB	10.0
Benzene	ND	2.5	ND	2.5	ND	2.5	ND	1.0	ND	1.0	0.16 J	1.0	ND J	1.0	0.16 J	1.0
Bromodichloromethane	ND	2.5	ND	2.5	ND	2.5	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Bromoform	ND	2.5	ND	2.5	ND	2.5	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Bromomethane	ND	5.0	ND	5.0	ND	5.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0
2-Butanone (MEK)	ND	12	ND	12	ND	12	ND	5.0	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Carbon disulfide	ND	2.5	ND	2.5	ND	2.5	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Carbon tetrachloride	39	5.2	45	5.2	47	5.2	ND	2.1	ND	2.1	ND	2.1	ND	2.1	ND	2.1
Chlorobenzene	ND	2.5	ND	2.5	ND	2.5	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chloroethane	ND	5.0	ND	5.0	ND	5.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0
Chloroform	11	1.2	12	1.2	12	1.2	ND	0.5	ND	0.5	13.0	0.5	14	0.5	14	0.5
Chloromethane	ND	5.0	ND	5.0	ND	5.0	ND	2.0	0.36 J	2.0	ND	2.0	ND	2.0	ND	2.0
Dibromochloromethane	ND	2.5	ND	2.5	ND	2.5	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
1,1-Dichloroethane	1.5 J	3.0	1.5 J	3.0	1.6 J	3.0	ND	1.2	ND	1.2	1.7	1.2	1.7	1.2	1.8	1.2
1,2-Dichloroethane	1.1 J	2.5	1.0 J	2.5	0.93 J	2.5	ND	1.0	ND	1.0	0.90 J	1.0	0.83 J	1.0	.82 J	1.0
1,1-Dichloroethene	4.8	2.5	5.6	2.5	5.8	2.5	ND	1.0	ND	1.0	3.4	1.0	3.4	1.0	3.5	1.0
cis-1,2-Dichloroethene	24	3.0	26	3.0	27	3.0	ND	1.2	ND	1.2	19	1.2	19	1.2	20	1.2
trans-1,2-Dichloroethene	ND	1.2	ND	1.2	ND	1.2	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
1,2-Dichloroethene (total)	24	2.5	26	2.5	27	2.5	ND	1.0	ND	1.0	19	1.0	19	1.0	20	1.0
1,2-Dichloropropane	ND	2.5	ND	2.5	ND	2.5	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
cis-1,3-Dichloropropene	ND	2.5	ND	2.5	ND	2.5	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
trans-1,3-Dichloropropene	ND	2.5	ND	2.5	ND	2.5	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Ethylbenzene	ND	2.5	ND	2.5	ND	2.5	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
2-Hexanone	ND	12	ND	12	ND	12	ND	5.0	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Methylene chloride	ND	12	ND	12	ND	12	ND	5.0	ND	5.0	0.83 J	5.0	0.95 J	5.0	1.0 J	5.0
4-Methyl-2-pentanone	ND	12	ND	12	ND	12	ND	5.0	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Styrene	ND	2.5	ND	2.5	ND	2.5	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
1,1,2,2-Tetrachloroethane	ND	2.5	ND	2.5	ND	2.5	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Tetrachloroethene	52	3.5	60	3.5	65	3.5	ND	1.4	ND	1.4	31	1.4	33	1.4	34.0	1.4
Toluene	ND	2.5	ND	2.5	ND	2.5	ND	1.0	ND	1.0	ND J	1.0	ND	1.0	ND	1.0
1,1,1-Trichloroethane	4.4	2.0	5	2.0	5.2	2.0	ND	0.8	ND	0.8	1.1	0.8	1.1	0.8	1.1	0.8
1,1,2-Trichloroethane	ND	2.5	ND	2.5	ND	2.5	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Trichloroethene	75	2.5	87	2.5	91	2.5	ND	1.0	ND	1.0	34	1.0	35	1.0	36	1.0
Vinyl chloride	ND	2.8	ND	2.8	ND	2.8	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND J	1.1
Xylenes (total)	ND	2.5	ND	2.5	ND	2.5	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0

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APPENDIX A - Mound Plume Treatment System Analytical Results (Preliminary) in ug/l

	Reactor 1 Sample Line R12		Reactor 1 Sample Line R13		Reactor 1 Sample Line R14		Reactor 1 (Effluent)		Reactor 2 (Effluent)	
Location/Date	5/25/99		5/25/99		5/25/99		5/25/99		5/25/99	
Sample Number	ETI-R12-S-01-52599		ETI-R13-S-01-52599		ETI-R14-S-01-52599		ETI-R1E-S-01-52599		ETI-R2E-S-01	
Parameter	Result	Detection Limit	Result	Detection Limit	Result	Detection Limit	Result	Detection Limit	Result	Detection Limit
Acetone	4.5 JB	10.0	5.6 JB	10.0	8.5 JB	10.0	3.7 JB	10.0	5.3 JB	10.0
Benzene	0.23 J	1.0	0.26 J	1.0	0.28 J	1.0	0.23 J	1.0	0.28 J	1.0
Bromodichloromethane	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Bromoform	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Bromomethane	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0
2-Butanone (MEK)	ND	5.0	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Carbon disulfide	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Carbon tetrachloride	ND	2.1	ND	2.1	ND	2.1	ND	2.1	ND	2.1
Chlorobenzene	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chloroethane	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0
Chloroform	7.2	0.5	5.7	0.5	6.1	0.5	6.6	0.5	1.4	0.5
Chloromethane	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0
Dibromochloromethane	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
1,1-Dichloroethane	1.8	1.2	1.8	1.2	1.5	1.2	1.8	1.2	1.7	1.2
1,2-Dichloroethane	0.87 J	1.0	0.86 J	1.0	0.88 J	1.0	0.70 J	1.0	0.76 J	1.0
1,1-Dichloroethene	2.1	1.0	1.8	1.0	2.2	1.0	1.7	1.0	0.50 J	1.0
cis-1,2-Dichloroethene	18.0	1.2	17.0	1.2	18.0	1.2	16.0	1.2	8.9	1.2
trans-1,2-Dichloroethene	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
1,2-Dichloroethene (total)	18.0	1.0	17.0	1.0	18.0	1.0	16.0	1.0	8.9	1.0
1,2-Dichloropropane	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
cis-1,3-Dichloropropene	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
trans-1,3-Dichloropropene	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Ethylbenzene	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
2-Hexanone	ND	5.0	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Methylene chloride	1.6 J	5.0	1.9 J	5.0	1.7 J	5.0	1.6 J	5.0	1.8 J	5.0
4-Methyl-2-pentanone	ND	5.0	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Styrene	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Tetrachloroethene	9.1	1.4	5.6	1.4	4.7	1.4	2.8	1.4	ND	1.4
Toluene	ND	1.0	ND	1.0	ND	1.0	ND	1.0	0.14 J	1.0
1,1,1-Trichloroethane	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8
1,1,2-Trichloroethane	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Trichloroethene	7.0	1.0	4.6	1.0	7.0	1.0	4.9	1.0	ND	1.0
Vinyl chloride	0.35 J	1.1	0.35 J	1.1	0.41 J	1.1	0.34 J	1.1	0.32 J	1.1
Xylenes (total)	ND	1.0	ND	1.0	ND	1.0	ND	1.0	ND	1.0

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APPENDIX B - Mound Plume Treatment System Radiological Results (Preliminary) in pCi/l

	Sample Number	Lab Sample ID	Result	Error/MDA	Comments
System Samples - Collection Date 2/23/99					
Total Uranium (ug/l)	ETI-R10-S-01	9CRD5P10	$1.44\ 10^{+1}$	$1.93 / 7.29\ 10^{-2}$	
Total Uranium (ug/l)	ETI-R10-S-01	JCRD5P1R	$1.44\ 10^{+1}$	$1.94 / 7.29\ 10^{-2}$	
Total Uranium (ug/l)	ETI-R10-S-02	9CRD5T10	$1.44\ 10^{+1}$	$3.19 / 7.29\ 10^{-2}$	
Total Uranium (ug/l)	ETI-R10-S-02	JCRD5T1W	$1.09\ 10^{+2}$	$1.46\ 10^{-1} / 7.29\ 10^{-2}$	
Total Uranium (ug/l)	ETI-R10-S-03	9CRD5W10	$1.43\ 10^{+1}$	$3.15 / 7.29\ 10^{-2}$	
Total Uranium (ug/l)	ETI-R11-S-01	9CRD6110	$7.42\ 10^{-3}$	$2.08\ 10^{-3} / 7.29\ 10^{-2}$	
Total Uranium (ug/l)	ETI-R11-S-02	9CRD6210	$7.52\ 10^{-3}$	$2.11\ 10^{-3} / 7.29\ 10^{-2}$	
Total Uranium (ug/l)	ETI-R11-S-03	9CRD6410	$9.08\ 10^{-3}$	$2.54\ 10^{-3} / 7.29\ 10^{-2}$	
Total Uranium (ug/l)	ETI-R12-S-01	9CRD6710	$2.15\ 10^{-3}$	$6.01\ 10^{-4} / 7.29\ 10^{-2}$	
Total Uranium (ug/l)	ETI-R13-S-01	9CRD6910	$4.33\ 10^{-3}$	$1.21\ 10^{-3} / 7.29\ 10^{-2}$	
Total Uranium (ug/l)	ETI-R14-S-01	9CRD6A10	$4.84\ 10^{-3}$	$1.36\ 10^{-3} / 7.29\ 10^{-2}$	
Total Uranium (ug/l)	ETI-R1E-S-01	9CRD6D10	$1.90\ 10^{-1}$	$4.17\ 10^{-2} / 7.29\ 10^{-2}$	
Total Uranium (ug/l)	ETI-R10-F-01	9CRD6G10	$2.29\ 10^{-3}$	$6.42\ 10^{-4} / 7.29\ 10^{-2}$	Field Blank
Effluent Sample - 2/23/99					
Total Uranium (ug/l)	ETI-R2E-C-01	9CRD6L10	$7.87\ 10^{-2}$	$1.73\ 10^{-2} / 7.29\ 10^{-2}$	
Americium 241 (pCi/l)	ETI-R2E-C-01	9CRD6L10	$3.71\ 10^{-3}$	$5.25\ 10^{-3} / 5.02\ 10^{-3}$	
Plutonium 238 (pCi/l)	ETI-R2E-C-01	9CRD6L10	0	$2.70\ 10^{-2} / 2.43\ 10^{-2}$	
Plutonium 239/240 (pCi/l)	ETI-R2E-C-01	9CRD6L10	$-1.44\ 10^{-3}$	$2.04\ 10^{-3} /$	
Gross Alpha (pCi/l)	ETI-R2E-C-01	9CRD6L10	$6.16\ 10^{-1}$	$8.07\ 10^{-1} / 1.41$	
Gross Beta (pCi/l)	ETI-R2E-C-01	9CRD6L10	2.08	1.42 /2.77	
Effluent Sample - 2/23/99 (Duplicate)					
Americium 241 (pCi/l)	ETI-R2E-C-01	JCRD6L1R	$1.10\ 10^{-2}$	$9.69\ 10^{-3} / 1.22\ 10^{-2}$	
Plutonium 238 (pCi/l)	ETI-R2E-C-01	JCRD6L1R	$7.62\ 10^{-3}$	$1.67\ 10^{-2} / 3.33\ 10^{-2}$	
Plutonium 239/240 (pCi/l)	ETI-R2E-C-01	JCRD6L1R	$-1.33\ 10^{-3}$	$1.88\ 10^{-3} / 3.78\ 10^{-2}$	
Gross Alpha (pCi/l)	ETI-R2E-C-01	JCRD6L1R	$-3.23\ 10^{-1}$	$1.69\ 10^{-1} / 1.81$	
Gross Beta (pCi/l)	ETI-R2E-C-01	JCRD6L1R	$8.28\ 10^{-1}$	1.30 /2.74	
Note: Sample locations shown on Figure 3.					